

SURGERY

UNDER THE CHARGE OF

J. WILLIAM WHITE, M.D.,

FORMERLY JOHN HIEA BAHTON PROFESSOR OF SURGERY IN THE UNIVERSITY OF PENNSYLVANIA AND SURGEON TO THE UNIVERSITY HOSPITAL,

AND

T. TURNER THOMAS, M.D.,

ASSOCIATE PROFESSOR OF APPLIED ANATOMY AND ASSOCIATE IN SURGERY IN THE UNIVERSITY OF PENNSYLVANIA; SURGEON TO THE PHILADELPHIA GENERAL HOSPITAL AND ASSISTANT SURGEON TO THE UNIVERSITY HOSPITAL.

A Contribution on Fractures of the Neck of the Femur Based upon Anatomical and Clinical Studies.—LANG (*Deutsch. Ztschr. f. Chir.*, 1916, cxxxv, 101) says that it is useless to attempt to cure ununited fracture of the neck of the femur by wire sutures or bone pegs. The poor result is the unavoidable consequence of the anatomical conditions. The occasional bony union obtained is only the result of accident, and is due to the fact that the vessels running in the epiphyseal line were not destroyed. After suture of fractures in the middle of the femoral neck, bony union is almost sure to fail. Upon the basis of Lang's anatomical studies the best treatment is to extirpate the head of the femur. He found that the chief cause of pseudarthrosis, neoarthrosis, and shortening of the neck, was to be sought in the demonstrated poorly nourished femoral neck, since it is itself poorly provided with bloodvessels. The blood supply of the neck of the femur in adults depends upon two circulations. The number of bloodvessels in the one is limited. They run in the epiphyseal line and extend from there to the femoral head. The bloodvessels of the other circulation are abundant, break up into branches in the trochanteric fossa and extend from there into the lateral part of the femoral neck. Because the vessels of the median and lateral portions of the neck barely anastomose a considerable portion of the middle of the neck is free of bloodvessels. The Kocher method of extirpation of the femoral head is the only rational operative treatment of non-union of a fracture of the neck of the femur.

Ulcers, New and Old; Jejunal for Duodenal Ulcers.—BLAND-SUTTON (*Lancet*, February 19, 1916, p. 387) says we know that chronic ulcer of the duodenum is a common lesion. For some undiscovered reason the ulcer in the majority of instances is situated within 2 cm. of the pylorus, and as a rule on the anterior wall of the duodenum, midway between its upper and lower borders. A chronic ulcer in this position is rarely accompanied by physical signs, but it sets up symptoms very easily recognized. Obstruction of the pylorus frequently complicates ulcers near the pylorus; it is caused by edema of the mucosa. This condition also occurs with an ulcer situated in the pyloric antrum. Some of the most troublesome ulcers in the pyloric region can neither be

seen nor felt in the course of a gastrojejunostomy. A small duodenal ulcer can only be detected when it involves the peritoneum and produces a tell-tale scar. The chronic ulcer of the duodenum is exceptional in another feature. It has never been proved that this ulcer has become cancerous. Bland-Sutton has long sought among the living, the dead, and in museums for a duodenal ulcer that has become cancerous; so far his search has been unavailing. Cancer arises in the duodenum, but not in the region that is the usual seat of ulceration. The frequency with which gastric ulcers become cancerous and the infrequency of cancerous change in duodenal ulcers are difficult of explanation. The jejunal ulcer that follows gastrojejunostomy, or the so-called peptic ulcer, causes pain in the epigastrium aggravated by the ingestion of food. The symptoms often resemble so closely those associated with a duodenal ulcer as to lead patients to complain that the pain and discomfort for which gastrojejunostomy was performed have returned. Since the treatment of duodenal ulcer passed into the province of surgery it has become the routine practice to perform gastrojejunostomy for its relief in the hope that by diverting the chyme through the new stoma into the jejunum the ulcer will heal. If the pylorus is obstructed by the ulcer the results are usually good, because the chyme must pass through the new stoma; but when the pylorus is patent the chyme flows through it and in some instances ignores the new route. The efflux can be watched with the help of an opaque meal and Roentgen-rays. Bland-Sutton believes it is better whenever practicable to excise the pylorus with the ulcerated portion of the duodenum and rejoin the stomach and duodenum on the principle of an end-to-end anastomosis. If this method could be made safe gastrojejunostomy for the relief of chronic duodenal ulcer with an unobstructed pylorus would soon be abandoned. Experience proves that posterior gastrojejunostomy with an obstructed pylorus is a beneficent operation, in spite of the risk the patient runs of getting a new ulcer for an old one. The new ulcer has been evolved in this generation by alterations in the environment of the jejunum brought about by surgery.

A Statistical Study of 539 Cases of Pott's Disease Treated by the Bone Graft.—ALBEE (*Amer. Jour. Orthop. Surg.*, 1916, xiv, 134) sent a large number of printed question blanks to surgeons in this and foreign countries who had performed this operation. Thirty-three surgeons reported a total of 299 results, in 229 of which the disease was pronounced arrested; in 59 the condition was improved. Twelve of the 229 patients died, four of these fatalities being reported as due to shock. The remaining eight cases died in four months or longer after operation, either from complications or from intercurrent disease. Of the author's personal cases, only those that have been operated upon one year or longer are included in this report. There are 198 of these; in 184 the disease was arrested; in two there was improvement. To date, 12 have died. Six of these were entirely relieved of their Pott's symptoms and died of some intercurrent disease. Several cases operated on in other clinics have come under Albee's observation, in which a Roentgen-ray study has demonstrated that the graft was either too short, or was placed in the wrong vertebrae, or was so inserted

as to allow a lateral displacement of the graft. Every diagnosis of Pott's disease should be confirmed by a Roentgen-ray examination, which should include an anteroposterior view as well as a lateral or an oblique lateral. The disintegration and the crushing of the vertebral bodies should always be demonstrated before advising the operation. This is necessary not only to confirm the diagnosis, but it is most imperative to determine the number and the particular vertebræ involved, so that the graft can be correctly placed.

Cervical Ribs, Report of Seven Cases with One Operative Case.—PLUMMER (*Amer. Jour. Orthop. Surg.*, 1916, xiv, 146) says that cervical ribs have been observed as unilateral, or double, usually related to the seventh cervical vertebra, and varying in size and completeness from a fully developed rib with articulations and muscle attachments, down to a mere enlargement or overgrowth of the costal process of the vertebral unit. The commonest clinical evidence of the presence of the extra rib has been, in the cases recorded, a neural disturbance in the arm associated with pain, or pain and varying degrees of paralysis referable to the distribution of the ulnar nerve, and suggesting pressure on or injury to the eighth cervical root. Less frequently disturbances of the circulation of the upper extremity, and spinal deviations have been observed. Apparently the size and shape of the rib do not bear any definite relation to the intensity of the symptoms produced, as it has been noted that some of the larger ribs have caused little or no trouble, and in some of the bilateral cases the neural signs have been found on the side of the rudimentary growth.

The Conservative Treatment of Gangrene of the Extremities due to Thrombo-angiitis Obliterans.—MEYER (*Ann. Surg.*, 1916, lxiii, 280) says that in cases of typical thrombo-angiitis obliterans, conservative treatment should be resorted to before amputation. The following sequence might be observed: (1) superheated air; best combined with (2) systematic hypodermoclysis of Ringer's solution. If these simpler conservative means prove of no avail, conservative operative measures are indicated, viz., (3) tying of the femoral vein or arteriovenous anastomosis. Both latter methods should be subjected to further careful clinical research as to their real value. Superheated air may bring improvement of the symptoms; however a lasting beneficial effect therefrom has hardly ever been seen. It rarely controls the pain. The systematic hypodermic injection of 400 to 500 c.c. of Ringer's (or of physiologic salt) solution (Mayesima-Koga) daily, or every second or third day, deserves a definite place in the conservative treatment of thrombo-angiitis obliterans. Its effect may be lasting or temporary. If temporary, repetition usually again brings improvement. Two such series of injections represent a sufficient test as to their fitness. If gangrene has set in, it can of course, not be made good. What has died remains dead. But its process may be stayed by the hypodermoclysis treatment; old and obstinate ulcerations may heal; the otherwise uncontrollable pain can be relieved. Internally, a simultaneous administration of organotherapeutic preparations deserves a careful test. Inflammation of the wall of the bloodvessels of the next higher groups to the capillaries, arterial as well as venous, seems to be respon-

sible for the thrombosis (Buerger). Its cause may be microbic. However, the increased viscosity of the blood, viz., blood that is thicker than normal, also seems to play an important role in the etiology of the disease. It is possible that an altered quality of the blood such as also represents a cause for the occurrence of the thrombosis and subsequent gangrene. On the basis of this reasoning, procedures which tend to reduce the coagulability of the blood within the body deserve to be tried in our efforts to find the underlying cause of the trouble. Intravenous injections of anticoagulating substances, as, for instance, of a 2 per cent. watery solution of sodium citrate, may prove to be a useful adjuvant to the systematic hypodermic administration of Ringer's solution.

THERAPEUTICS

UNDER THE CHARGE OF

SAMUEL W. LAMBERT, M.D.,

PROFESSOR OF CLINICAL MEDICINE IN THE COLLEGE OF PHYSICIANS AND
SURGEONS, COLUMBIA UNIVERSITY, NEW YORK.

The Treatment of Typhoid Fever with Typhoid Vaccine Administered Intravenously.—McWILLIAMS (*Med. Record*, 1915, lxxxviii, 648) has collected a total of more than 550 cases of typhoid fever treated with intravenous injections of typhoid vaccine and reported in the literature by various observers. In more than half of these cases the disease was cut short, the patient having been saved from one to several weeks of fever. McWilliams believes that a few deaths must undoubtedly be attributed directly to the injections of vaccine. However, this is likely to occur with any new and radical method of treatment. As the contra-indications and dosage are better understood, such deaths should become extremely rare. No one type of vaccine seems to possess any great superiority over other types with regard to treatment. The proper dosage for intravenous injections appears to be from 100 to 250 million bacilli. The injection of the vaccine calls forth first a marked leukopenia and several hours later a high-grade leukocytosis in typhoid patients. Variations in the number of polynuclear leukocytes are responsible for these changes, the lymphocytes remaining relatively constant. The eosinophile cells undergo an increase shortly after the injection. The various types of vaccine call forth similar changes in the blood picture.

The Treatment of Typhoid Fever by Stock Typhoid Vaccine.—WILTSHIRE and MACGILLYCADDY (*Lancet*, 1915, clxxxix, 685) report a consecutive series of 50 cases of typhoid in which two or more doses of vaccine were given for therapeutic effect. Seven of these patients died, giving a mortality of 14 per cent. Six of the fatal cases were complicated by severe bronchopneumonia, the seventh died from intestinal perforation at a period of the disease when it seemed as if the